

New Mobility

Business Strategy

by Srinivas Kuppa

Battery as a Service

Covers: Batteries for electric motorcycles, scooters, bicycles, and others

Includes: Battery Pack as a Services, Battery Swapping platform.

First Target Location:

- India, China

Market Size

Battery PACK

- 27.8B by 2031
- CAGR 24.2% upto 2031

Battery Swappers. Charging Cabinets:

- \$1.7B in 2022
- CAGR 49.5% up to 2027

Partners & Customers

Electric Scooter, Bike Manufacturers

- Okai
- Lime
- Yulu
- Ola
- Zoomcar
- Vogo
- Whoosh

Key Software Capabilities

Battery Management System
Battery Analysis
Controller Area Network Bus - inter system communication
Vehicle control Unit

Key Competition (Battery Manuf.)

- Simplo
- Dynapack
- DESAY
- Sunwoda
- BYD
- SCUD
- Celxpert
- Highstar
- Lishen
- Samsung SDI
- Shenzhen zhuoneng new energy
- Tian Neng

Top 5 Manufacturers own 79% of the market. Asia Pacific has 81% of the market.

Benefits

- Swappable batteries reduces the need for visiting gas stations.
- Reduces upfront costs of the vehicle.
- Platform enabling additional services over time - location services, integrated CAN.

Key Competition (Battery Swappers, cabinets, wireless chargers)

- Tier (PushMe)
- Gogoro
- Immotor
- NIO Power
- Swobbee
- Aulton
- Sun Mobility
- MG Motors
- Zypp Electric
- Evez
- Upgrid
- Numocity
- WiBotic

Pricing Plans

\$10-30 USD per month / 2-wheeler battery. \$135 USD per moth for 4-5 swaps.

Only in India 2.5M electric micro mobility vehicles in 2023.

Comparison - 1 fully charged battery gives 40 miles and 2-liter fossil fuel gives 40 miles at (\$2.5 USD in India). An average commuter travel 500 miles per month costing ~\$32 per month in fossil fuel.

Recommendation for Entrant

Look for an acquisition that allows The Company to offer a full vehicle as a service solution.

Target Europe sooner than later. Start with India. China appears very competitive.

Partner with a micro mobility manufacturer with an established market share (most electric MM companies are venture funded and small).

Expand the offering to increase revenue / ride and get data - RTLS. Provide an integrated software solution with the above-mentioned capabilities. This will help "the company" control the data, and also increase the contract value.

Electric battery will not be a differentiation on its own. The BaaS should be such that it should be cheaper and easier to charge and operate compared to visiting a gas station.

Maybe, partner with gas station agencies to establish charging stations or partner with "chain business" to carry charged batteries with swapping kiosks. Provide an app to check-in / out batteries.

Check if the BaaS can be extended to lawn-mowers, leaf-blowers.

Extend the offering to three wheelers and mini mobility space.

	2024		2025	
	Battery Units	Revenue / Year	Battery Units	Revenue / Year
India BaaS (\$30/month/battery)	50K (~1% market)	18M	100K	36M
Europe BaaS			100K	36M
Other software-driven revenue		TBD		TBD

Challenges

- Battery packs & charging remains a high-cost exercise.
- Lack of charging infrastructure.
- No standardized swappable battery packs.
- Value is dependent on government regulations.
- Crowded market.
- Competition from CNG, LNG and other alternate energy sources for mobility.

Last Mile Service

Electric

Includes: Electric equipment & autonomous - ground delivery - bots, self driving cars and trucks.

Excludes - Aerial

First Target Location:

- USA

Market Size

- 4.2B by 2030
- CAGR 22.7% upto 2030

Partners & Customers

Retail & restaurants
 Health systems
 Logistics
 Agriculture
 Construction companies

Benefits

Low-cost option to the alternate of human driving systems.
 Wireless charging.
 24/7 delivery. Speed of delivery.

Key Software Capabilities

Process control / mining.
 AI enabled services
 Sense and avoid integration capabilities between LiDAR, cameras, radars and other sensors.
 Data processing. Electronic signatures. Geo-stamping. Delivery notification.
 Payload tracking & verification.
 Interoperation with Smart City & Smart home infrastructure.

Key Competition

Zipline
 Robomart
 Hugo
 JD.com
 Nuro
 Amazon
 Kiwibot
 Uber
 Waymo
 Flipkart

Pricing Plans

Average cost per mile using the traditional model is \$1.15 per mile (fuel, maintenance, driver wages, insurance, other costs).

Autonomous last mile vehicles should be distance, weight or guaranteed delivery based (creative). Cost includes factors above minus driver wages and battery costs (instead of fuel). Driver wages are \$0.3 per mile. An average last mile drives 200 miles per 8-hour workday. So, the autonomous vehicle cost should be less than \$60 for such a trip.

Recommendation for The Company

Extend this offer to near distance, repeat route services - health systems (lab specimen and other content), school / university systems (move material), delivery systems. Focus on use cases with non-human payload.

Offer such that you own the data, and process flow.

Build vehicles that can provide a considerable distance per charge (more than 40 miles per charge).

Avoid passenger and vehicle road based autonomous vehicles and move to "off the road" structured paths - agriculture, construction, mining, postal & package.

The Company	2024		2025	
	Trucks	Revenue / Year	Trucks	Revenue / Year
Normalizing various pricing types (x hours / n deliveries / a weight) - \$50 for 8 hours (300 days in a year)	100	1.5M	300	4.5M
Increased delivery times (as autonomous vehicles can operate in off times) \$75 for additional 10 hours (300 days in a year)	100	2.25M	300	6.75M

Challenges

Lack of government safety regulations at large.
 Some localities have very restrictive rules to avoid human and property risk.
 Load carrying regulations may become operational.
 Theft and damage.
 Require the system to use other sophisticated tools such as mapping, traffic assessment and other capabilities which require high end network connectivity and energy consumption.

Document Scope

You have been given the exciting opportunity to build a new business segment within our \$40B automotive parts manufacturing company. The potential for growth in this segment is equal or even greater in scale than our existing operations. We would like to understand your strategic thinking and decision-making abilities as you outline your approach for building this business.

Growth Strategy: a. Organic Growth: Please outline your strategy for achieving organic growth within our company. Consider how you would leverage our existing resources, capabilities, and customer base to establish and expand this new business segment. Highlight the key steps, milestones, and challenges you anticipate in this approach. b. Small Acquisitions: Alternatively, present your rationale for pursuing small acquisitions as a means to build this business. Explain how you would identify and evaluate potential acquisition targets, integrate them into our existing operations, and capitalize on their strengths to achieve rapid growth.

Team Building: a. Please describe your approach to building a team for this new business segment. Consider the specific roles and expertise required to drive success in this industry. Discuss your strategies for attracting, evaluating, and hiring top talent to ensure the team is well-equipped to execute the business plan effectively. b. Additionally, share your thoughts on fostering a collaborative and inclusive team culture that aligns with the company's values, while enabling innovation, flexibility, and accountability.

Product Development: a. Elaborate on your vision for developing a compelling product or service offering within this new business segment. Consider the current market trends, customer demands, and competitive landscape. Discuss your strategies for identifying unmet customer needs, conducting market research, and developing a differentiated product that stands out in the market. b. Describe how you would prioritize product development initiatives, manage resources, and accelerate time-to-market while maintaining product quality and meeting regulatory standards.

Scaling the Business: a. Given the immense potential for growth in this new business segment, outline your plan to scale the business to seize the opportunities effectively. Include your strategies for expanding the customer base, increasing market share, and achieving profitability targets while remaining competitive. b. Discuss how you would mitigate risks associated with scaling the business, such as operational challenges, supply chain complexities, and managing increased demand. Highlight any strategic partnerships, collaborations, or new business models you would consider to facilitate rapid growth.

Approach

To complete this action, I have taken the covered the following:

- Market research - using no specific framework but including Market segmentation techniques.
- Market analysis - using a loose combination of the following frameworks - Porter's 5 forces, PESTLE, and SWOT
- Self evaluation & competitor comparative analysis - using a loose combination of BCG matrix & Competitive Advantage methods.
- Develop a strategy hypothesis - covering business, product, and customer success.
- Develop a business, product, and GTM strategy, key goals & objectives.
- Develop an execution strategy - my amalgamated method called 4Ps - People, Process, Product and Packaging
- Establish a key set of performance metrics to measure progress and make pivots - covering finance, product, and customer success areas.
- Establish a growth & scaling strategy - using the IVR (Incubate, Validate and Replicate) model.

Note: Most of the underlying research and further details will be shared separately via email. I wanted to keep this document short.

Executive Summary

Guiding Principles to build the new business within Mobility space:

- Ride the major trends that align with company's strengths. Include significant software driven revenue.
- Bring an integrated "as a Service" model around the electrified and autonomous vehicle components.
- Target OEMs as primary customers but expand the target customer-base to mobility service providers, technology firms and to a lesser extent end-consumers.
- Prioritize "less complex structured mobility" markets for offering fully integrated autonomous driving capabilities - warehouse logistics, delivery services, construction, agriculture etc.
- Build brand recognition as an AI technology firm offering integrated solutions for mobility with the power of 300+ manufacturing plants across 27+ countries selling 3M+ electric & autonomous driving components and building complete vehicles. Build partnerships in areas where 1+1>2. For example, a hyperscaler technology partner such as Google or Microsoft can help accelerate the transformation.
- Look for acquisitions or invested partnerships where the Go-To-Market can be accelerated, and (proven) augmenting skill-set is available.
- Growth Strategy: Four key product initiatives that cover the key growth areas that either have high synergies with The Company;s existing business capabilities but bring additional revenue stream (electrified micro & minim mobility vehicle platform and light logistics Autonomous Vehicles) and one initiative (Intelligent Mobility Software Platform) that creates the tangible steps towards becoming a true technology giant in the mobility industry for transformed brand recognition and value. I propose a portfolio model where both organic growth and acquisitions need to happen for creating a successful business.
- Team Building: Bring new talent as you effectively use the inhouse subject matter expertise in right combination. Develop a culture and brand recognition for attracting and keeping the best talent.
- Product Development: Apply product development practices that drive speed, quality and compliance, while keeping the business value at the forefront of planning. Adopt scaled Agile methodology.
- Scaling the business: Operations, partnerships (supply and demand side), customer reach, revenue and delivery model recalibrations are key. Adopting automation and specialized tools are important for assessing the demand, and also staying compliant. Hiring at scale needs the existing organization to be motivated and tied into a cultural realm.

Note: Most of the underlying research and further details have been inserted in the appendix.

Growth Strategy

Organic Growth: Please outline your strategy for achieving organic growth within our company. Consider how you would leverage our existing resources, capabilities, and customer base to establish and expand this new business segment. Highlight the key steps, milestones, and challenges you anticipate in this approach.

Organic Growth requires the following faculties to work in cohesion:

Production Vision & Strategy: Create a clear and concise product vision. Follow it up with a detailed strategy hypothesis.

Mobility business is a very challenging market due various factors ranging from technology, regulatory risks, competition and a difficulty in monetization. The Company has extensive strengths over other pure-play competitors due to its available manufacturing resources, customer base, deep know how and advanced products that are already venturing into the mobility (connected, electrified and autonomous) space.

My product vision will be: Intelligent and sustainable mobility. Strategy is to enter markets where the benefits of electrification and autonomous technology heavily outweigh the risks and costs (if that means the company need to look for alternate mobility mechanisms from the main-stream private passenger vehicle, so be it. In fact, I would strive to reduce The Company's dependency of its revenue on the number of transitional passenger vehicles sold.

Market Analysis & Product Definition: Extensive market analysis including customer interviews and competitor research. The Company has a significant advantage in this space due to its perceived brand value and strong customer base. However, it helps to partner with a technology company (hypescalar) to augment the market validation process.

Product definition will be created using the Minimum Sellable Product (MSP). Goal would be to fire 4 key initiatives (as listed in executive summary and in a follow up slide), but each with a clear minimal scope for GTM. The customer adoption and revenue metrics will be tied to the GTM campaign.

Innovation & Incubation: Follow the innovation and incubation process as depicted below (explained in detail).

Product Development & Validation: The Company's product know-how in electrification and autonomous technologies help tap into the in-house talent in building the MVP. Integrations with components' firmware, as well as means to develop differentiating APIs due to vertically integrated model will be made possible only by exploiting the most out of The Company's existing business.

Sales: The Company's existing salesforce will provide an excellent channel for creating the pipeline for the new business. Sales will help define the "beach-head" capabilities for the product, help price the product and also develop an opportunity pipeline.

Customer Support: The new business will have the benefit of using established customer support and operations model and not spend time creating the methods and tools as a pure-play startup would.

Key Milestones

The below mentioned steps will be the key milestones, which each roughly at a cadence of 60 days.

Organic growth business require monthly board review, thus the milestones for review should be 30 days. The strategy, financials, product validation, customer traction, marketing and development roadmap should be the topics to be discussed during the monthly board review.

The quarterly board review should be a deep dive into two key areas: business (financial / sales metrics) and customer adoption. Additional topics such as pivot or expansion related topics shall be discussed in these meetings. Further, the pricing and packaging, revenue models and business models, as well as competitor battle cards are reviewed.

Risks of leveraging The Company's existing resources:

Distracting the workforce whose goals maybe misaligned.

Caught in traditional thinking. No room for fresh blood, and new thinking.

May lack out-of-the box thinking.

May fall short where complementing skills are required,.

There is NO risk in tapping existing customer base, internal sales teams and also utilizing the brand value and deep pockets.



Growth Strategy

Small Acquisitions: Alternatively, present your rationale for pursuing small acquisitions as a means to build this business. Explain how you would identify and evaluate potential acquisition targets, integrate them into our existing operations, and capitalize on their strengths to achieve rapid growth.

Inorganic growth (acquisitions):

1. Acquisition is required for a successful growth for The Company in the mobility business. An acquisition of the right kind will infuse complementing product capabilities, skilled resources, proven market, revenue and expanded customer base. An acquisition, if properly integrated can also help develop a culture of the business that can create $1+1>2$. An acquisition could be an outright purchase, a controlling share or joint venture – each with pros and cons.
2. Identifying an integration target:
 1. Strategic fit: Product vision, its roadmap and product ecosystem should fit into the strategic direction of The Company. A complementing product ecosystem that can accelerate The Company's roadmap and go-to-market.
 2. Financial fit: Should not adversely impact the revenue and cost parameters set for the company's overall growth.
 3. Culture fit: Most acquisitions fail as the companies work as independent entities even after acquisition. The cultural integration do not occur and the mutual distrust and animosity creeps in to never resolve.
 4. Skills fit: An acquisition with customers, revenue and product and without completing resources and skills will cause continued decline of the business post acquisition.
 5. Market fit: The stand along growth parameters and the market viability are important. Its rare that a failing entity or a good entity operating in a failing market could be improved after strategic acquisition. This will only cause drag on the otherwise organic business.
 6. Market expansion: An acquisition that can help The Company enter synergistic markets.
 7. Integration Synergies: the revenue and (unfortunate) cost synergies must be achieved.

I left a sample list of startups in the mobility space by the subdomain they are operating under. I am not recommending any specific companies, but I will identify the sub-segments which are highly complementary and synergistic for The Company based on above criteria and will evaluate them in a greater detail.

Growth Strategy

Build a product portfolio, with a horizon of 2 years.

Kick off distinct initiatives to cover Electrified, Autonomous driving, and Connected Mobility.

Launch “Intelligent Mobility” Software Platform that covers uniquely “contextualized” APIs which can operate on cloud or edge.

- Vehicle as a Device API
- Vehicle-to-Everything API
- Charging Service API
- Autonomy & Data Contextualization & AI API

Strategy: Tap traditional Market for incremental revenue. Control / monetize integration points.

Opportunity: By 2030 - The integrated mobility platform market is expected to be \$100 B. 75% of the mobility devices will have an embedded AI service running.

Target Customers: OEMs, technology partners, ride-share services. **First Target Location:** Global

The Company’s Unfair Advantage: Electrified & autonomous components sales footprint. Offering unique valuable “contextualized” APIs. Complete vehicle manufacturing capabilities may enable direct-to-consumer sales or to fleet-operators, allowing ability to tap greater value.

Risks: Complex technology endeavor. Need to develop skill-set, acquisitions and partnerships. If capabilities do not unlock unique benefits of being the component manufacturers, there is a risk of being one of many.

Launch a fully electrified and connected micro-mobility or mini-mobility vehicle platform as a Service. Augment with “Intelligent Mobility” APIs as a service.

Strategy: Reduce dependency on traditional vehicle sales. Address the transforming market paradigm (<15Mile transportation market). Enter small complete vehicle sales in growing markets.

Opportunity: By 2030, 65% reduction in private vehicle trips. 20% of all trips will be using shared mobility services. 80% of micro (<5 mile) & mini (<15 miles) rideshare vehicles will be electric. \$400B micro-mobility market. Investment into micro-mobility is steadily increasing since covid dip. 2 & 3-wheeler electric vehicle growth is expected to have a CAGR of 14% through 2030, led by China and India.

Target Customers: OEMs, technology partners, ride-share services.

First Target Location: Asia or Europe.

The Company’s Unfair Advantage: Electrified & autonomous components sales footprint. Offering unique valuable “contextualized” APIs. Complete vehicle manufacturing capabilities may enable direct-to-consumer sales or to fleet-operators, allowing ability to tap greater value.

Risks: Avoid complex vehicles that require high investment and high compliance and safety costs.

Launch an autonomous vehicle platform in warehouse management & logistics as a Service. Augment with “Intelligent Mobility” APIs as a service.

Strategy: Leverage integrated autonomous driver component ecosystem. Enter L3/L4 autonomous vehicle sales in a simpler, less regulated, but equally valuable markets.

Opportunity: By 2030, 30% of forklifts, 20% of guided vehicles and 15% of tuggers will be AVT. The “warehousing and logistics” AVT market is expected to be \$1T with CAGR of 13% (2020-2030). Extending the definition of mobility outside of private human road transportation and venturing into “structured mobility” where applying L4 AVT is easier: Warehouse & logistics, healthcare systems interior transportation, delivery service, agriculture & construction.

Target Customers: Warehouses. Logistics Contractors. Construction and Healthcare Systems. Agriculture Giants.

First Target Location: North America or Europe.

The Company’s Unfair Advantage: Electrified & autonomous components sales footprint. Offering unique valuable “contextualized” APIs. Complete vehicle manufacturing capabilities may enable direct-to-consumer sales or to fleet-operators, allowing ability to tap greater value.

Risks: Avoid complex vehicles that require high investment and high compliance and safety costs.

Launch a Charging Station Equipment as a Service: Enter the Charging Station business.

Strategy: Leverage electric battery and charging equipment manufacturing capabilities. Enter growing charging services market.

Opportunity: By 2030, the charging station equipment market is expected to grow to \$250B TAM at 34.5% CARG (22-30) and need for 6-10K charging stations per week.

The Company’s Unfair Advantage:

Target Customers: OEMs, technology partners, ride-share services.

First Target Location: Asia or Europe.

The Comopany’s Unfair Advantage:

The Company offers electrified vehicle components and working on portable, fast, inductive, integrated, drive-by and other charging methods, and offering electrified components such as battery and drivetrain, as well as their deep-rooted partnerships with OEMs provides an excellent opportunity.

Risks: Validate venturing into real-estate. It could be a good or bad business depending on strategic goals. Provide charging methods that are well integrated into electrified systems of the vehicle, otherwise, there will be a risk from competition.

Team Building

Building a team for this new business segment.

Required Organization

Product Management			Sales		Partnerships		
Owners	Managers	Marketing	Sales Reps		GSI	Channel & Reseller	
Scope Breakdown: Device Integration AI & Solutions Epics, features, stories definitions. Prioritization, interaction with development and technical teams.	Scope Breakdown: Product Area 1 Product Area 2 Domain expertise, SKU Pricing & Packaging, manage technology partnerships, evangelize product, strategic customer relationship, product prioritization and validation.	Scope Breakdown: Product Marketing Manager Product Marketing Bill Of Material. Competitor battle cards. Digital Marketing Content. GTM Campaigns.	Matrix responsibility layout depending on the product portfolio. Carry quota. Sales rep should be tied to region. During the growing phase, all sales cover all product SKUs.		GSI partnerships.	All Channel resellers.	
Quality & Release Management			Product Development				
QA	Release	Compliance	Developers	DevSecOps	Component Architects	Integration Architects	Documentation
Test Engineers. Define, automate and test software	Establish release methods	Verify and review licensing, protocol standards and any other platform security related items	Develop Code. Provide L2 support	Manage ML & Software pipelines	Define & design component arc	Define and design integration arch	Develop & release documentation
CFO & Controller			Customer Success		Compliance & Regulatory		
Accounting	Financials	Attorney	Technical pre-sales		Services & Delivery		
Payments & Ledger	Balance sheet & income statement	Legal items	Understand customer's needs and our product capabilities to present a compelling story.		Provide customer support. SLAs.		
					SME Group of individual covering key regulations, cybersecurity and other standards.		

Team Building

A combination of skills are required for the success of this business. Such skill should be pooled with hiring new blood and leveraging existing in-house talent.

1. Pre-cursor steps

- Take several marketing steps to enhance the brand value as a mobility technology company by announcing the launching of several transformative products in the electrification, autonomous vehicle and AI-embedded connected vehicle domains.
- Announce several key partnerships, preferably with large technology firms. Announcement should put The Company on a higher pedestal.
- Take up at least two major GTM campaigns with visually rich content.

2. Search for talent

- Target talent from large technology firms, competing mobility companies and reasonably successful well funded startups. Look for deep subject matter expertise, attitude and proven appetite for innovation.
- Scenario based interview process will always help evaluate the talent better.
- Prioritize attitude and willingness to learn over experience.

3. Attracting talent

- Competitive pay structure.
- Offer performance-based stock options. Offer performance development programs or cost-compensation for such programs.
- Encourage employee led hiring program.
- Explain the vision, mission, strategy and key goals & objectives clearly. Create healthy ways for employees to participate, define and own the growth strategy and its execution plans.
- Clear visual towards career growth with minimal

4. Evaluating talent

- Build a scenario-based interview process that evaluates:
 - Skill set
 - Matching core values
 - Bias towards action
 - Being collaborative
 - Being innovative
- For key leadership invite them to one of the nearby offices. One of the executives should meet him/her.
- Key leadership should have bias towards customer success, ability to learn fast, and have bias towards business value.

Team Building

Fostering a collaborative and inclusive team culture that aligns with the company's values, while enabling innovation, flexibility, and accountability

To foster a successful team, we need to develop a mutual commitment model. A model where “the what”, “the how” and the “the who” are clearly defined.

What	How	Who?	Duration / Measure
Define the key values	Company charter	Leadership	Define goals with weights for each of the value categories.
Define clear goals & expectations	Quarterly goals and KPIs. Mutual-responsibility charter.	Leadership (all levels) in collaboration with teams.	Annual & quarterly. Each goal should be precise and measurable as a number, percentage or outcome.
Innovation mindset	Create an innovation time (day or week), to bring in fresh ideas and thinking. Teach your colleagues - voluntary sessions	Line leadership in collaboration with the teams	Measure the hackathon and other innovation sessions and its translated business value.
Open communication	Create an atmosphere for sharing ideas, having disagreements across organizational lines is encouraged. Candid communication (with respect) should be encouraged.	All levels.	Survey every quarter.
Mutual commitment & Accountability. Take ownership	Create a mutual commitment model where everyone should do their part to achieve certain goal. “Manager absent” test. On occasions the senior leader should purposefully skip a meeting to evaluate how the team reconfigures themselves and creates a productive session.	All levels.	Utilization, quality and
Celebrate success	Celebrate even small wins and make it a habit. Define the success criteria ahead of time.	All levels.	Number of celebrations per team.
Celebrate diversity of being and thought	Know your colleague sessions	All levels.	Survey every quarter.
Build a team bond	Colocations or periodic face-to-face sessions	All levels.	Measure the number of in-person sessions and outcomes.

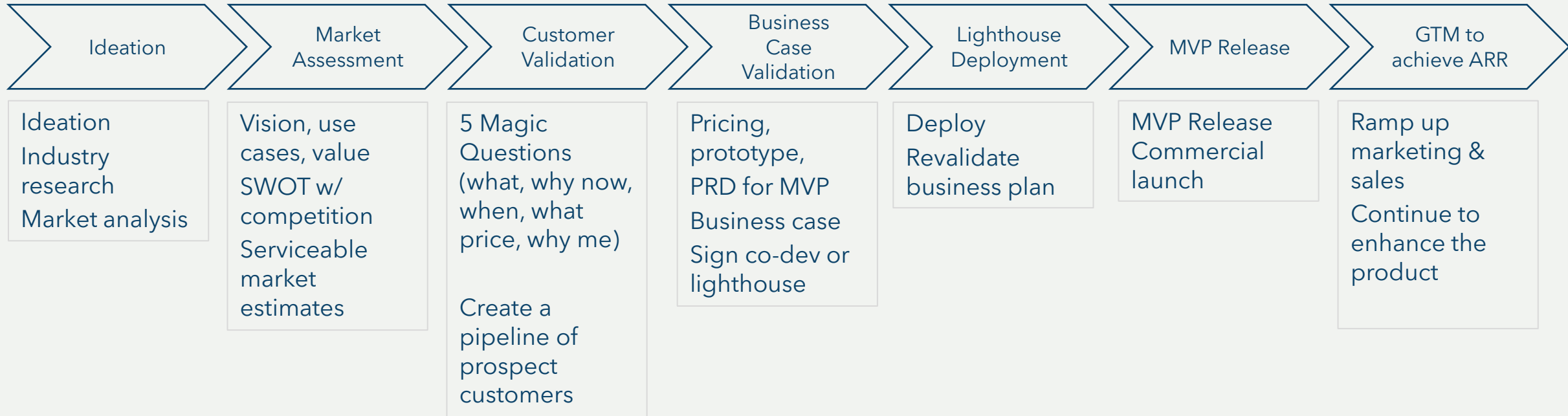
Product Development

Elaborate on your vision for developing a compelling product or service offering within this new business segment. Consider the current market trends, customer demands, and competitive landscape. Discuss your strategies for identifying unmet customer needs, conducting market research, and developing a differentiated product that stands out in the market.

For any idea to translate into a healthy scaled business or fail fast, its important to go through the rigor of three broad steps:

1. Incubate
2. Validate
3. Replicate

Below is the flow for the Incubate phase that culminates with a GTM "campaign gate".



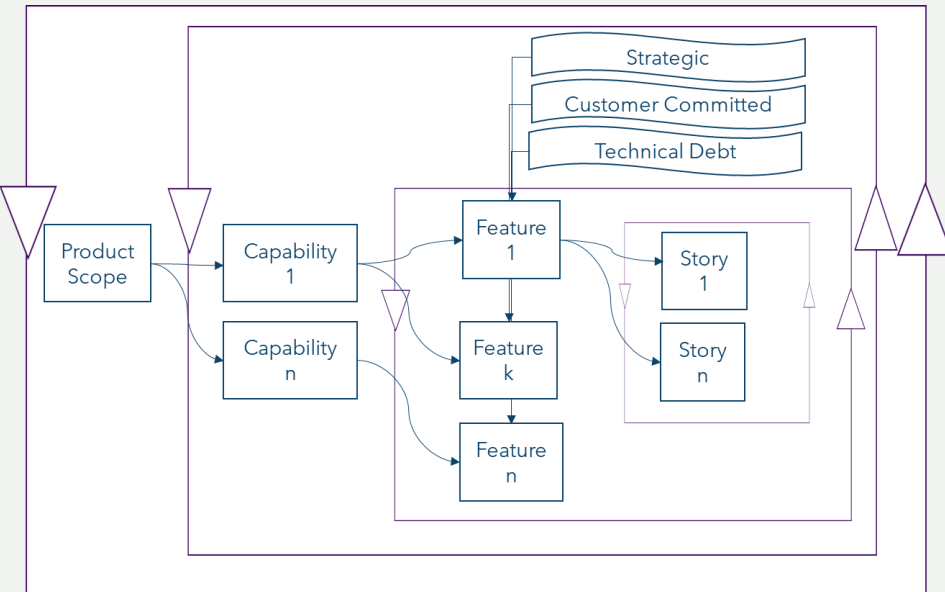
The Validate and Replicate phases will follow the same flow, but with the expansion as the goal (either by region, by industry or even by customer segment). Each phase will have a clear pre-defined revenue, product and customer penetration targets to be achieved before they move to the next "campaign gate". The exact numbers will be different for each initiative, but defined as a collaborative effort between product management, development, sales and marketing.

Product Development

Describe how you would prioritize product development initiatives, manage resources, and accelerate time-to-market while maintaining product quality and meeting regulatory standards.

Process:

A story should complete in a sprint (2 weeks). A feature should complete within a Planning Interval (roughly 6 sprints). Multiple features are completed in a planning interval. Each Planning Interval should have 4 development sprints, one innovation & planning sprint and one stabilization sprint. QA should be a continuous exercise across all sprints. One planning interval should create a new release content. A capability should not span for more than two Planning Intervals. Features should be tagged with strategic, customer committed or technical debt for easy prioritization. Also, each feature should have a business value (numeric and description). The whole Agile train including the business owner meet every Planning Interval. Product Managers / owners and scrums meet every sprint for planning and reprioritization. Product Managers & owners should stay ahead with 4 sprint content using -10% rule on details. UX and architecture teams should be at least 2 sprints ahead. UX teams should run end-user usability tests on concepts at least 2 sprints ahead, and architects should prepare a design and prototype two sprints ahead using the spike model.



Prioritization by Business value

- Accelerating Time to Market: Continuous re-prioritization cycles along with established communication ceremonies and standard documentation methods will help prioritize.

Speed:

- Velocity of development and rate of closure of stories provides the visibility on resource utilization.

Quality:

- Automation testing. Complete test coverage guarantees highest quality.

Planning & resources

- Certain class of resources such as UX, Architects, QA would be shared services. To avoid risk of conflict in commitments and priorities, the planning ceremonies as explained above are helpful. The teams in individual scrums should be portable from one scrum to another to cover gaps, delays and risks.

I propose a practical version of scaled Agile process. I have been a certified practitioner.

Scaling the Business

Given the immense potential for growth in this new business segment, outline your plan to scale the business to seize the opportunities effectively. Include your strategies for expanding the customer base, increasing market share, and achieving profitability targets while remaining competitive.

For the above questions related to Growth Strategy and Product Development, I have introduced “first target Location” and “incubate, validate, and replicate”, respectively. I will use them to elaborate by thoughts around scaling the business.

Once the product passes through the incubate and validate phase gates, it is mostly clear that the product is ready for scale. By now, it is also very clear on what vectors the scale can be applied – geography, industry, market segment, or some combination of the above. Also, it becomes clear how much can be scaled through organic means and what requires a partner-led growth.

As a business owner, I will look at scaling by breaking the actions into the following categories:

- Define time-bound north star, goals & objectives, and KPI for measuring success: It is difficult to set up the goals as scaling is the toughest of the growth phases. The easiest way to approach is to create a lofty north star, followed by a regular integrations to fine tune the path and course correct.
- Customer Reach – by Geography, Industry, Segment, or any other vector. Reaching customers across each segment, geography and relevant industries is one of the greater challenges but is also the only way to scale the business on the revenue side with reasonable diversification. The variability in customer reach is amplified by various factors. One of the most effective ways to scale is by creating and leveraging the network effect using the partner led got-o-market model.
- Organization – Hiring across globe, hiring across various functions and hiring at scale will cause various challenges ranging from engaging key resources to hiring process to hiring low-grade talent due to time-constrained demand. Establishing a robust hiring model that does not compromise on values and talent are a key.
- Revenue Model – Account for normalizing various pricing models that we may offer across various market segments. Account for revenue estimates, books versus revenue recognition delays due to constraints from regional laws, currency exchange challenges, and inability to offer (or avail) certain benefits on balance sheet & income statement due to country specific challenges.
- Delivery Model – Account for alternate delivery models, languages, country / region specific regulations, technology related challenges with customers, or industry specific compliance limitations.

There are several models available for measuring the health of a scaling company: Rule of 20, Rule of 30, or Rule of 40 company The revenue, EBITA, Customer Lifetime value, net / gross profit margin, burn rate, and market share tend to be the key metrics.

Scaling the Business

Discuss how you would mitigate risks associated with scaling the business, such as operational challenges, supply chain complexities, and managing increased demand. Highlight any strategic partnerships, collaborations, or new business models you would consider to facilitate rapid growth.

Mitigate the risks of scaling:

Scaling a business and handling the risks is the most challenging part of a growing business. There is no silver bullet, but a few measurement driven approaches to keep the journey on track. What it takes to incubate and validate the business is different from what it takes to scale (replicate phase) the business.

Operational Challenges:

Implement standardized procedures. Leverage automation where needed. Create processes for all major activities. Include processes that adhere to compliance standards. Incorporate specialized tools needed for performing key operational activities.

Supply Chain Challenges:

There are several Operational Research models to keep track of optimal inventory and supply chain. However, during the scaling process, this is one area where heavy investment and loss can occur. Especially, when the physical products are sourced. Have a clear measure of your vendor capacity against the variance of your demand. The Company has the power of manufacturing supporting the new business of mobility, so it gives an unfair advantage where the inventory collection as well as ability to assemble / manufacture on demand to compensate for gaps should be possible. Also, The Company's powerful supply chain ecosystem should lend a soft-bed for the scaling of the new mobility business without as much risk of supply chain as an otherwise competing pure-play start-up.

Measuring demand is one of the better ways to handle supply chain needs and planning. Incorporating better CRM tools and market expansion plans will help gauge the demand and establish an organized scaling, which in turn will not enforce a spike on the vendor ecosystem.

Partnerships

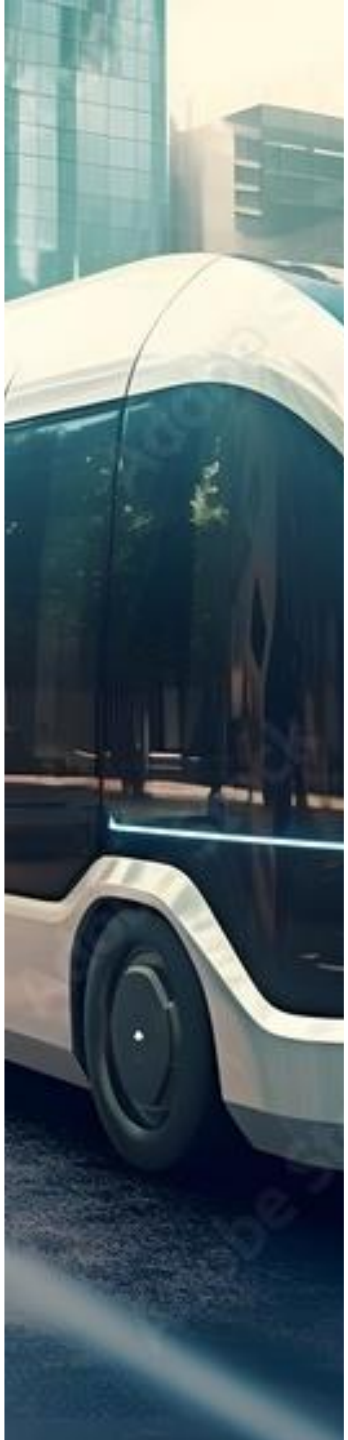
Partnerships with vendor ecosystem is valuable to handle supply chain risks.

On the demand side, the strategy should cover the following partnerships:

- Technology (such as MSFT, AWS, Google) partner who could provide scaling platform.
- Global Service Integrator (such as EY, Accenture, Deloitte) partners who can provide immense scale in deploying our products and providing an extension to our operations and sales wing with minimal risk for us.
- Analyst (such as Gartner, Frost & Sullivan) partners who provide coveted recognition through their channels, which will help scale our brand recognition and ability to deliver across the globe.
- Channel / Value Added Resellers: Channel partners help us extend the market share and get into opportunities which the internal sales would otherwise miss.

New Business Model

- Mobility as a Service - venturing into a model of offering various mobility options for certain modes of transport and certain locations.
- Equipment (parts) as a Service (where the components are sold as a service with added software component to draw connectivity and data).
- Micro & mini mobility where the mobility equipment is offered as a service.
- Intelligent Mobility software platform as a Service, enabling easy connectivity, troubleshooting and integration of the mobility equipment with infrastructure and everything.
- There are many others. To draw the circle around all possible models, it important to say mobility covers models under connected, electrified and autonomous vehicles where hardware, firmware and software services, complete products and spare parts are offered.



New Mobility

APPENDIX

by Srinivas Kuppa

Mobility Market Segmentation

Categories	Su-categories
Electric Mobility	Battery
	Drivetrain
	Charging solutions
Autonomous Driving	Driver assistance systems
	Autonomous driving systems
Mobility	Micro mobility (upto 5 miles)
	Ride Sharing (medium mobility) (upto 15 Miles)
	Mobility as a Service
	Robo-shuttles (autonomous driving cabs, buses)
	Automotive Commerce
Connected Vehicle	In-Vehicle
	Vehicle-2-Vehicle
	Vehicle-2-Infrastructure
	Vehicle
	Safety & Convenience

Connected Car Automatic Truvolo Metronomile AutoBot Automile Zubie Airbiquity Vinli CariQ IMS Dash CloudCar Remoto Censio	Driver Tools & Diagnostics Nauto Splitsecnd Navdy Carvoyant Zendrive Cambridge Mobile Telematics Lytx ionRoad HAAS Alert Tantalum Engie Dash CarSense Drivemode Drust Nonda PACE	Vehicle-To-Vehicle Communication Peloton 5D Robotics TellIQ Cohda Wireless Autotalks	Driver Assistance & Monitoring ZMP RoboCV Cruise TTTech Telogis GreenRoad Edgetensor LightMetrics Stroma Guardian CardioID Affectiva EyeSight CariV	Charging Networks AmpUp ChargeFox Electrify America Charging Station Management Drivrz EV Connect	Vehicle-to-Infra (V2X) CohdaWireless Savari Autotalks Nexar Cubic Telecom Kymeta Fermata Energy Nuvve	Battery Management & Analytics Eaton eNow TWAIICE Voltaiq	Mobility Where is my train, Turo, Lime, Gojek, Uber, Grab, Arrive, Shutti, Didi Chuxing, Car Dekho, Lime,
Fleet Telematics SmartDrive Inthinc TruckTrack Vnomics W-Locatem Zonar	Supercapacitors NAWA Technologies Skeleton Technologies	Data Platforms Vinli Otonomo Mojo	Heads-up Display Navdy HUDWAY FUTURUS	Charging Infrastructure ABB ChargePoint Engie EO Charging EVBox FreeWire Technologies IES Synergy Inbalance Grid JetCharge Mobility House SemaConnect Switch Bernadotte &	Lithium-ion Batteries 24M Amprius Cadenza Conamix Core Technology Enovate ESS Inc. Nano One NEI Corporation Northvolt Romeo Power SILA Nanotechnologies Solid Power	Solid-state Batteries Ilika Ionic Materials ProLogium QuantumScape SolidEnergy Systems	Autonomous Mapillary, Drive.ai, Zoox, Dispatch, Carmera, Waymo, Scotty Labs, Light, Blue Vision Labs, Mighty AI, Aurora, Cruise, Affectiva